

ORIGINAL

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C.

EX PARTE OR LATE FILED

RECEIVED

MAR 22 2000

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of )  
 )  
Establishment of Rules and Policies for the )  
Digital Audio Radio Satellite Service in the )  
2310-2360 MHz Frequency Band )

IB Docket No. 95-91  
GEN Docket No. 90-35

**FURTHER CONSOLIDATED REPLY OF XM RADIO INC.**

XM Radio, Inc. ("XM Radio") hereby responds to reply comments filed in the above-captioned proceeding by MCI WorldCom, Inc. ("MCI"), Metricom, Inc. ("Metricom"), and Aerospace & Flight Test Radio Coordinating Council ("AFTRCC"). MCI and Metricom merely echo earlier comments that XM Radio responded to fully in its own reply, and there remains no legitimate reason to adopt the burdensome administrative requirements and technical restrictions that they support. In addition, based on available technical information, XM Radio believes that it will be able to work with AFTRCC to resolve the limited interference issues raised in its comments.

**Background**

*XM Radio's Supplement, Comments, and XM Radio's Reply.* On December 17, 1999, XM Radio filed Supplemental Comments ("Supplement") with the Commission regarding the planned deployment of its DARS terrestrial repeaters.<sup>1/</sup> In the Supplement, XM Radio indicated that to improve the quality of its service, it intends to deploy and operate approximately 1500 terrestrial repeaters, within a 20 to 30 mile radius of the urban centers of the largest seventy metropolitan areas in the country. Supplement at 3. While most of these repeaters will have a

<sup>1/</sup> Supplemental Comments of XM Radio Inc., IB Docket No. 95-91 (December 17, 1999) ("Supplement").

No. of Copies rec'd 012  
List ABCDE

transmit EIRP of 2 kW or less, XM Radio indicated that it planned to deploy approximately 150 high-power repeaters, ranging from 3 kW to 20 kW per carrier. In addition, XM Radio indicated that, pursuant to an agreement with Sirius Satellite Radio Inc. ("Sirius Radio"), XM Radio's out-of-band emissions will be attenuated below the transmitted EIRP ("p") (measured in watts) by not less than  $75 + 10 \log(p)$  dB.<sup>2/</sup> Supplement at 5.

On February 22, 2000, comments were filed on XM Radio's Supplement by the National Association of Broadcasters ("NAB"), the Wireless Communications Association International, Inc. ("WCA"), and BellSouth Corporation and BellSouth Wireless Cable (collectively, "BellSouth").<sup>3/</sup> In their comments, both WCA and BellSouth urged the Commission to adopt a set of operational restrictions and administrative procedures in order to protect MMDS and ITFS licensees from alleged interference from DARS terrestrial repeater operations. WCA Comments at 5-6; BellSouth Comments at 7-9. BellSouth also proposed that the Commission require repeater out-of-band emissions be attenuated 14 dB beyond the attenuation proposed by XM Radio and Sirius Radio ( $75 + 10 \log(p)$  dB) in their supplemental comments. BellSouth Comments at 9-10.

On March 8, 2000, XM Radio filed Reply Comments in response to these comments.<sup>4/</sup> In

---

<sup>2/</sup> On January 18, 2000, Sirius Radio, the DARS licensee in the 2320-2332.5 MHz frequency band, also filed Supplemental Comments describing its planned DARS terrestrial repeaters. Supplemental Comments of Sirius Satellite Radio, IB Docket No. 95-91 (January 18, 2000).

<sup>3/</sup> Comments of the National Association of Broadcasters, IB Docket No. 95-91 (February 22, 2000); Comments of the Wireless Communications Association International, Inc., IB Docket No. 95-91 (February 22, 2000) ("WCA Comments"); Comments of BellSouth Corporation and BellSouth Wireless Cable, Inc., IB Docket No. 95-91 (February 22, 2000) ("BellSouth Comments").

<sup>4/</sup> Consolidated Reply of XM Radio Inc., IB Docket No. 95-91 (March 8, 2000) ("XM Radio Reply").

this Reply, XM Radio pointed out that WCA and BellSouth had never before presented had their proposals in this three-year proceeding, and that it would be unfair and inappropriate for the Commission to adopt such policies at this late stage. XM Radio Reply at 11. XM Radio also cited these commenters' total reliance on the Commission's WCS decision, and pointed out that the WCS order was based on various factors that carry little weight in the DARS context. *Id.* at 8-11. XM Radio presented technical evidence showing (i) that high-power DARS repeater transmissions are highly unlikely to cause interference to the new, more robust wireless cable receivers widely deployed in the wake of the PCS rollout, and (ii) that XM Radio's repeaters are unlikely to interfere even with older MMDS and ITFS receivers. *Id.* at 12-13. XM Radio stated that the Commission should not require DARS licensees to compensate MMDS/ITFS licensees for claimed interference, and urged the Commission to reject any prior coordination requirement that DARS repeater operations. *Id.* at 14-15. Finally, XM Radio urged the Commission to reject BellSouth's request for a more stringent out-of-band emissions limit, given that BellSouth's proposal was 32 dB more stringent than the standard that WCS licensees themselves must meet to protect other fixed WCS licensees. *Id.* at 15-16.

*Additional Reply Comments.* As indicated above, on March 8, 2000, additional comments (filed as reply comments) were submitted by MCI, Metricom, and AFTRCC.<sup>5/</sup> In their reply comments, MCI and Metricom express their support for the rules and restrictions proposed by WCA and BellSouth. Metricom states that these proposed power limits and

---

<sup>5/</sup> Reply Comments of MCI WorldCom, Inc., IB Docket No. 95-91 (March 8, 2000); Reply Comments of Metricom, Inc., IB Docket No. 95-91 (March 8, 2000) ("Metricom Comments"); Reply Comments of Aerospace & Flight Test Radio Coordinating Council IB Docket No. 95-91 (March 8, 2000) ("AFTRCC Comments") (attaching "Technical Analysis of the Potential for DARS Terrestrial Repeaters to Interfere with Flight Test Telemetry Operations at S Band" ("Technical Analysis")).

equipment replacement policies are necessary to protect not only MMDS and ITFS operations, but also WCS operations. Metricom Comments at 2-3. Metricom argues that in order to ensure regulatory parity, terrestrial DARS operations should be subject to the same rules that have been imposed on terrestrial WCS operations. *Id.* at 3. In addition, to further protect WCS licensees, Metricom urges the Commission to require DARS licensees to provide prior notice to WCS operators before initiating repeater operations. *Id.* at 2.

In its filing, AFTRCC expresses concern that the operation of DARS terrestrial repeaters at power levels greater than 2 kW could cause interference to telemetry communications from flight-test ranges, which occupy the 2360-2390 MHz band. AFTRCC Comments at 2; Technical Analysis at 1-2. AFTRCC indicates that the 2 kW power limit proposed by WCA would provide sufficient protection against interference. AFTRCC Comments at 2; Technical Analysis at 2. At the same time, AFTRCC states that it would also be satisfied with a requirement that DARS licensees coordinate the operation of any repeater exceeding 2 kW with any potentially affected telemetry communications facility. AFTRCC Comments at 3; Technical Analysis at 2-3. To facilitate such coordination, AFTRCC attaches a list of the coordinates of all potentially affected facilities. Technical Analysis at 4-5.

## **Discussion**

### **I. XM Radio Has Responded Fully to the Concerns Expressed by MCI and Metricom**

As discussed above, XM Radio's Reply Comments demonstrate that there is no legitimate basis for adopting previous commenters' proposed administrative requirements and technical restrictions on DARS terrestrial operations. In their Replies, MCI and Metricom merely echo WCA and BellSouth without providing any legitimate reason for imposing such burdensome regulations. In particular, Metricom does not present any evidence showing that

XM Radio's planned DARS repeater operations are an interference threat to WCS facilities or explaining why DARS repeaters should be subject to an out-of-band emissions limit that is 32 dB more stringent than the standard that WCS licensees themselves must meet to protect other fixed WCS licensees.<sup>6/</sup> Metricom's claim that a 2 kW power limit for DARS repeaters is appropriate for reasons of competitive parity is meritless; while it is true that WCA and DARS systems will operate in adjacent bands, DARS licensees will not be competing with Metricom or other WCS licensees.

## **II. XM Radio is Confident That It Will Be Able to Resolve the Limited Interference Issues Raised by AFTRCC**

XM Radio recognizes the importance of flight telemetry communications, and it takes seriously the concerns expressed in AFTRCC's comments regarding potential interference to flight telemetry facilities. Based on its review of the coordinates presented in its AFTRCC's filing, XM Radio currently anticipates that it will not operate any terrestrial repeaters with an EIRP exceeding 2 kW close enough to any listed facility to be a potential source of interference. At the same time, XM Radio will work with AFTRCC and its member companies both to gain a greater understanding of AFTRCC's concerns and to take any appropriate measures necessary to avoid interference to flight telemetry communications.

---

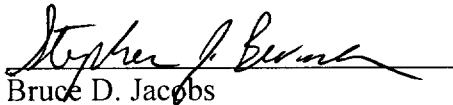
<sup>6/</sup> Under Part 27 of the Commission's rules, WCS licensees are required to attenuate out-of-band emissions by  $43 + 10 \log (p)$  dB. 47 C.F.R. § 27.53(a). In comparison, as indicated above, XM Radio and Sirius Radio have agreed to meet an out-of-band emissions limit of  $75 + 10 \log (p)$  dB.

### Conclusion

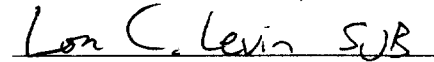
In light of the foregoing, XM Radio continues to urge the Commission to expeditiously finalize its rules for DARS terrestrial repeater facilities and permit XM Radio to move forward with the rapid implementation of its satellite DARS network.

Respectfully submitted,

**XM RADIO INC.**



Bruce D. Jacobs  
Stephen J. Berman  
David Konczal  
Fisher Wayland Cooper  
Leader & Zaragoza L.L.P.  
2001 Pennsylvania Ave., N.W.  
Suite 400  
Washington, D.C. 20006  
(202) 659-3494



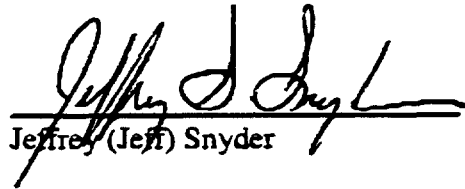
Lon C. Levin  
Senior Vice President, Regulatory  
XM Satellite Radio Inc.  
10802 Park Ridge Boulevard  
Reston, Virginia 20191  
(703) 758-6000

Date: March 22, 2000

### **Technical Certification**

I, Jeffrey (Jeff) Snyder, Vice President, Systems of XM Satellite Radio Inc. ("XM Radio"), hereby certify the following under penalty of perjury:

I have reviewed the foregoing "Further Consolidated Reply of XM Radio Inc." and the technical information contained in these materials is true and correct to the best of my belief.



Jeffrey (Jeff) Snyder

Dated: March 22, 2000

**CERTIFICATE OF SERVICE**

I, Marilyn Murphy , a secretary to the law firm of Fisher Wayland Cooper Leader & Zaragoza L.L.P., hereby certify that on this 22nd day of March, 2000, I served a true copy of the foregoing **"FURTHER CONSOLIDATED REPLY OF XM RADIO INC."** by first class United States Mail, postage prepaid, upon the following:

Richard E. Wiley  
Carl F. Frank  
Wiley, Rein & Fielding  
1776 K Street, NW  
Washington, DC 20006

Henry. L. Baumann  
Valerie Schulte  
National Association of Broadcasters  
1771 N Street, NW  
Washington, DC 20036

B. Jacobi  
Cohn and Marks  
1333 New Hampshire Ave., NW  
Suite 600  
Washington, DC 20036

Charles T. Morgan  
Senior Vice President  
Susquehanna Radio Corp.  
140 East Market Street  
York, PA 17401

M. Scott Johnson  
Gardner, Carton & Douglas  
1301 K Street, NW  
Suite 900 - East Tower  
Washington, DC 20005

Gary Klein  
The Consumers Electronics Association  
2500 Wilson Boulevard  
Arlington, VA 22201

Catherine Wang  
William B. Wilhem, Jr.  
Swidler & Berlin, Chartered  
3000 K Street, NW - Suite 300  
Washington, DC 20007


William B. Barfield  
Thompson T. Rawls, II  
Suite 1800  
1155 Peachtree Street, N.E.  
Atlanta, Georgia 30309



Paul J. Sinderbrand  
William H. Huber  
Wilkinson Barker Knauer, LLP  
2300 N Street, NW - Suite 700  
Washington, DC 20037-1128

Robert S. Koppel  
Jennifer A. Manner  
M. Lillie Harrison  
MCI WorldCom, Inc.  
1133 19th Street, NW  
Washington, DC 20036

William K. Keane  
Arter & Hadden LLP  
1801 K Street, NW - Suite 400K  
Washington, DC 20006-1301

  
Marilyn Murphy